The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Presented) A method for operating an optically recordable disk memory comprising the steps of:

introducing an optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a semiconductor laser light onto said optical disk through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is $30/mm^2$ or less, wherein said hard-carbon coating is an outermost layer of the disk, and wherein said hard-carbon coating contains hydrogen;

wherein said hard-carbon coating contains silicon and phosphorus.

2. (Original) A method according to claim 1 wherein said protective film is formed on the surface of said optical disk without heating.

3. (Previously Presented) A method according to claim 1 wherein said hard-carbon coating comprises a diamond-like carbon.

4. (Previously Presented) A method according to claim 1 wherein film quality of said hard-carbon coating is measured in accordance with Raman spectroscopy.

5. (Previously Presented) A method according to claim 1 wherein the thickness of said hard-carbon coating is 50Å or more.

6. (Canceled)

7. (Canceled)

8. (Previously Presented) A method for operating an optically recordable disk memory comprising the steps of:

introducing an optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a semiconductor laser light onto said optical disk through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is $30/mm^2$ or less;

wherein said hard-carbon coating contains silicon and phosphorus at a concentration at 20 atomic% or less.

9. (Original) A method according to claim 8 wherein said protective film is formed on the surface of said optical disk without heating.

H1 Cont.

10. (Previously Presented) A method according to claim 8 wherein said hard-carbon coating comprises a diamond-like carbon.

11. (Previously Presented) A method according to claim 8 wherein film quality of said hard-carbon coating is measured in accordance with Raman spectroscopy.

12. (Previously Presented) A method according to claim 8 wherein the thickness of said hard-carbon coating is 50Å or more.

13. (Canceled)

14. (Previously Presented) A method according to claim 8 wherein said hard-carbon coating contains hydrogen.

15. (Previously Presented) A method for operating an optically recordable disk memory comprising the steps of:

introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a semiconductor laser light onto said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is $30/mm^2$ or less, wherein said hard-carbon coating is an outermost layer of the disk, and wherein said hard-carbon coating contains hydrogen;

wherein said hard-carbon coating contains silicon and phosphorus.

16. (Original) A method according to claim 15 wherein said protective film is formed on the surface of said substrate without heating.

H 1 cont

17. (Previously Presented) A method according to claim 15 wherein said hard-carbon coating comprises a diamond-like carbon.

18. (Previously Presented) A method according to claim 15 wherein film quality of said hard-carbon coating is measured in accordance with Raman spectroscopy.

19. (Previously Presented) A method according to claim 15 wherein the thickness of said hard-carbon coating is 50Å or more.

20. (Canceled)

21. (Canceled)

22. (Previously Presented) A method for operating an optically recordable disk memory comprising the steps of:

introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a semiconductor laser light onto said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is $30/mm^2$ or less;

wherein said hard-carbon coating contains silicon and phosphorus at a concentration at 20 atomic% or less.

23. (Original) A method according to claim 22 wherein said protective film is formed on the surface of said substrate without heating.

H1 cont

24. (Previously Presented) A method according to claim 22 wherein said hard-carbon coating comprises a diamond-like carbon.

25. (Previously Presented) A method according to claim 22 wherein film quality of said hard-carbon coating is measured in accordance with Raman spectroscopy.

26. (Previously Presented) A method according to claim 22 wherein the thickness of said hard-carbon coating is 50Å or more.

27. (Canceled)

28. (Previously Presented) A method according to claim 22 wherein said hard-carbon coating contains hydrogen.

29. (Previously Presented) A method for operating an optically recordable disk memory comprising the steps of:

introducing an optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a laser light having a wavelength of 700 to 800 nm onto said optical disk through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is $30/mm^2$ or less, wherein said hard-carbon coating is an outermost layer of the disk, and wherein said hard-carbon coating contains hydrogen;

wherein said hard-carbon coating contains silicon and phosphorus.

30. (Original) A method according to claim 29 wherein said protective film is formed on the surface of said optical disk without heating.

H1 cont.

31. (Previously Presented) A method according to claim 29 wherein said hard-carbon coating comprises a diamond-like carbon.

32. (Previously Presented) A method according to claim 29 wherein film quality of said hard-carbon coating is measured in accordance with Raman spectroscopy.

33. (Original) A method according to claim 29 wherein the thickness of said hard-carbon coating is 50Å or more.

34. (Canceled)

35. (Canceled)

36. (Previously Presented) A method for operating an optically recordable disk memory comprising the steps of:

introducing an optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a laser light having a wavelength of 700 to 800 nm onto said optical disk through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is $30/mm^2$ or less;

wherein said hard-carbon coating contains silicon and phosphorus at a concentration at 20 atomic% or less.

37. (Original) A method according to claim 36 wherein said protective film is formed on the surface of said optical disk without heating.

38. (Previously Presented) A method according to claim 36 wherein said hard-carbon coating comprises a diamond-like carbon.

H1 cont

39. (Original) A method according to claim 36 wherein film quality of said hard-carbon coating is measured in accordance with Raman spectroscopy.

40. (Original) A method according to claim 36 wherein the thickness of said hard-carbon coating is 50Å or more.

41. (Canceled)

42. (Previously Presented) A method according to claim 36 wherein said hard-carbon coating contains hydrogen.

43. (Previously Presented) A method for operating an optically recordable disk memory comprising the steps of:

introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a laser light having a wavelength of 700 to 800 nm onto said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is $30/mm^2$ or less, wherein said hard-carbon coating is an outermost layer of the disk, and wherein said hard-carbon coating contains hydrogen;

wherein said hard-carbon coating contains silicon and phosphorus.

44. (Original) A method according to claim 43 wherein said protective film is formed on the surface of said substrate without heating.

H1 cont.

45. (Previously Presented) A method according to claim 43 wherein said hard-carbon coating comprises a diamond-like carbon.

46. (Original) A method according to claim 43 wherein film quality of said hard-carbon coating is measured in accordance with Raman spectroscopy.

47. (Original) A method according to claim 43 wherein the thickness of said hard-carbon coating is 50Å or more.

48. (Canceled)

49. (Canceled)

50. (Previously Presented) A method for operating an optically recordable disk memory comprising the steps of:

introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a laser light having a wavelength of 700 to 800 nm onto said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is $30/mm^2$ or less;

wherein said hard-carbon coating contains silicon and phosphorus at a concentration at 20 atomic% or less.

51. (Original) A method according to claim 50 wherein said protective film is formed on the surface of said substrate without heating.

52. (Previously Presented) A method according to claim 50 wherein said hard-carbon coating comprises a diamond-like carbon.

H1 cont.

53. (Original) A method according to claim 50 wherein film quality of said hard-carbon coating is measured in accordance with Raman spectroscopy.

54. (Original) A method according to claim 50 wherein the thickness of said hard-carbon coating is 50Å or more.

55. (Canceled)

56. (Previously Presented) A method according to claim 50 wherein said hard-carbon coating contains hydrogen.

57. (Previously Presented) A method for operating an optically recordable disk memory comprising the steps of:

introducing an optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a visible light onto said optical disk through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is 30/mm^2 or less, wherein said hard-carbon coating is an outermost layer of the disk, and wherein said hard-carbon coating contains hydrogen;

wherein said hard-carbon coating contains silicon and phosphorus.

58. (Previously Presented) A method for operating an optically recordable disk memory comprising the steps of:

introducing an optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a visible light onto said optical disk through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is 30/mm^2 or less;

wherein said hard-carbon coating contains silicon and phosphorus at a concentration at 20 atomic% or less.

H1 cont.

59. (Previously Presented) A method for operating an optically recordable disk memory comprising the steps of:

introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a visible light onto said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is 30/mm^2 or less, wherein said hard-carbon coating is an outermost layer of the disk, and wherein said hard-carbon coating contains hydrogen;

wherein said hard-carbon coating contains silicon and phosphorus.

60. (Previously Presented) A method for operating an optically recordable disk memory comprising the steps of:

introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a visible light onto said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is $30/mm^2$ or less;

wherein said hard-carbon coating contains silicon and phosphorus at a concentration at 20 atomic% or less.

61. (Previously Presented) A method according to either one of claims 57 or 58, wherein said protective film is formed on the surface of said optical disk without heating.

62. (Previously Presented) A method according to either one of claims 59 or 60, wherein said protective film is formed on the surface of said substrate without heating.

H1 cont

63. (Previously Presented) A method according to any one of claims 57, 58, 59 or 60, wherein said hard-carbon coating comprises a diamond-like carbon.

64. (Previously Presented) A method according to any one of claims 57, 58, 59 or 60, wherein film quality of said hard-carbon coating is measured in accordance with Raman spectroscopy.

65. (Previously Presented) A method according to any one of claims 57, 58, 59 or 60, wherein the thickness of said hard-carbon coating is 50Å or more.

66. (Currently Amended) A method according to ~~any~~ either one of claims [[57,]] 58, [[59]] or 60, wherein said hard-carbon coating contains hydrogen.

67. (Canceled)

68. (Previously Presented) A method of operating an optical magnetic disk comprising the steps of:

introducing an optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a semiconductor laser light onto said optical disk through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is $30/mm^2$ or less, wherein said hard-carbon coating is an outermost layer of the disk, and wherein said hard-carbon coating contains hydrogen;

wherein said hard-carbon coating contains silicon and phosphorus.

69. (Previously Presented) A method of operating an optical magnetic disk comprising the steps of:

introducing an optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a semiconductor laser light onto said optical disk through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is $30/mm^2$ or less,

wherein said hard-carbon coating contains silicon and phosphorus at a concentration at 20 atomic% or less.

70. (Previously Presented) A method of operating an optical magnetic disk comprising the steps of:

introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a semiconductor laser light onto said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is 30/mm^2 or less, wherein said hard-carbon coating is an outermost layer of the disk, and wherein said hard-carbon coating contains hydrogen;

wherein said hard-carbon coating contains silicon and phosphorus.

71. (Previously Presented) A method of operating an optical magnetic disk comprising the steps of:

introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a semiconductor laser light onto said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is 30/mm^2 or less;

wherein said hard-carbon coating contains silicon and phosphorus at a concentration at 20 atomic% or less.

H, cont.

72. (Previously Presented) A method according to either one of claims 68 or 69, wherein said protective film is formed on the surface of said optical disk without heating.

73. (Previously Presented) A method according to either one of claims 70 or 71, wherein said protective film is formed on the surface of said substrate without heating.

74. (Previously Presented) A method according to any one of claims 68, 69, 70 or 71, wherein said hard-carbon coating comprises a diamond-like carbon.

75. (Previously Presented) A method according to any one of claims 68, 69, 70 or 71, wherein film quality of said hard-carbon coating is measured in accordance with Raman spectroscopy.

76. (Previously Presented) A method according to any one of claims 68, 69, 70 or 71, wherein the thickness of said hard-carbon coating is 50Å or more.

77. (Currently Amended) A method according to ~~any~~ either one of claims [[68,]] 69, [[70]] or 71, wherein said hard-carbon coating contains hydrogen.

78. (Canceled)

79. (Previously Presented) A method of operating an optical magnetic disk comprising the steps of:

introducing an optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a laser light having a wavelength of 700 to 800 nm onto said optical disk through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is $30/mm^2$ or less and wherein said hard-carbon coating contains hydrogen;

H1 cont.

wherein said hard-carbon coating contains silicon and phosphorus.

80. (Previously Presented) A method of operating an optical magnetic disk comprising the steps of:

introducing an optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a laser light having a wavelength of 700 to 800 nm onto said optical disk through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is $30/mm^2$ or less,

wherein said hard-carbon coating contains silicon and phosphorus at a concentration at 20 atomic% or less.

81. (Previously Presented) A method of operating an optical magnetic disk comprising the steps of:

introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a laser light having a wavelength of 700 to 800 nm onto said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is $30/mm^2$ or less, wherein said hard-carbon coating is an outermost layer of the disk, and wherein said hard-carbon coating contains hydrogen;

wherein said hard-carbon coating contains silicon and phosphorus.

82. (Previously Presented) A method of operating an optical magnetic disk comprising the steps of:

H1 cont.

introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a laser light having a wavelength of 700 to 800 nm onto said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is $30/mm^2$ or less;

wherein said hard-carbon coating contains silicon and phosphorus at a concentration at 20 atomic% or less.

83. (Previously Presented) A method according to either one of claims 79 or 80, wherein said protective film is formed on the surface of said optical disk without heating.

84. (Previously Presented) A method according to either one of claims 81 or 82, wherein said protective film is formed on the surface of said substrate without heating.

85. (Previously Presented) A method according to any one of claims 79, 80, 81 or 82, wherein said hard-carbon coating comprises a diamond-like carbon.

86. (Previously Presented) A method according to any one of claims 79, 80, 81 or 82, wherein film quality of said hard-carbon coating is measured in accordance with Raman spectroscopy.

87. (Previously Presented) A method according to any one of claims 79, 80, 81 or 82, wherein the thickness of said hard-carbon coating is 50Å or more.

88. (Currently Amended) A method according to ~~any~~ either one of claims [[79,]] 80, [[81]] or 82, wherein said hard-carbon coating contains hydrogen.

89. (Canceled)

H1 cont.

90. (Previously Presented) A method of operating an optical magnetic disk comprising the steps of:

introducing an optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a visible light onto said optical disk through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is $30/mm^2$ or less, wherein said hard-carbon coating is an outermost layer of the disk, and wherein said hard-carbon coating contains hydrogen;

wherein said hard-carbon coating contains silicon and phosphorus.

91. (Previously Presented) A method of operating an optical magnetic disk comprising the steps of:

introducing an optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a visible light onto said optical disk through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is 30/mm^2 or less,

wherein said hard-carbon coating contains silicon and phosphorus at a concentration at 20 atomic% or less.

92. (Previously Presented) A method of operating an optical magnetic disk comprising the steps of:

introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a visible light onto said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is 30/mm^2 or less, wherein said hard-carbon coating is an outermost layer of the disk, and wherein said hard-carbon coating contains hydrogen;

wherein said hard-carbon coating contains silicon and phosphorus.

H1 cont. 93. (Previously Presented) A method of operating an optical magnetic disk comprising the steps of:

introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a visible light onto said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is 30/mm^2 or less;

wherein said hard-carbon coating contains silicon and phosphorus at a concentration at 20 atomic% or less.

94. (Previously Presented) A method according to either one of claims 90 or 91, wherein said protective film is formed on the surface of said optical disk without heating.

95. (Previously Presented) A method according to either one of claims 92 or 93, wherein said protective film is formed on the surface of said substrate without heating.

96. (Previously Presented) A method according to any one of claims 90, 91, 92 or 93, wherein said hard-carbon coating comprises a diamond-like carbon.

97. (Previously Presented) A method according to any one of claims 90, 91, 92 or 93, wherein film quality of said hard-carbon coating is measured in accordance with Raman spectroscopy.

98. (Previously Presented) A method according to any one of claims 90, 91, 92 or 93, wherein the thickness of said hard-carbon coating is 50Å or more.

99. (Currently Amended) A method according to ~~any~~ either one of claims ~~90,~~ 91, ~~92~~ or 93, wherein said hard-carbon coating contains hydrogen.

H1 cont

100. (Canceled)

101. (Previously Presented) A method of operating a compact disk comprising the steps of:

introducing an optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a semiconductor laser light onto said optical disk through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is $30/mm^2$ or less, wherein said hard-carbon coating is an outermost layer of the disk, and wherein said hard-carbon coating contains hydrogen;

wherein said hard-carbon coating contains silicon and phosphorus.

102. (Previously Presented) A method of operating a compact disk comprising the steps of:

introducing an optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a semiconductor laser light onto said optical disk through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is $30/mm^2$ or less,

wherein said hard-carbon coating contains silicon and phosphorus at a concentration at 20 atomic% or less.

103. (Previously Presented) A method of operating a compact disk comprising the steps of:

introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

H1 cont.

irradiating a semiconductor laser light onto said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is $30/mm^2$ or less, wherein said hard-carbon coating is an outermost layer of the disk, and wherein said hard-carbon coating contains hydrogen;

wherein said hard-carbon coating contains silicon and phosphorus.

104. (Previously Presented) A method of operating a compact disk comprising the steps of:

introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a semiconductor laser light onto said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is $30/mm^2$ or less;

wherein said hard-carbon coating contains silicon and phosphorus at a concentration at 20 atomic% or less.

105. (Previously Presented) A method according to either one of claims 101 or 102, wherein said protective film is formed on the surface of said optical disk without heating.

106. (Previously Presented) A method according to either one of claims 103 or 104, wherein said protective film is formed on the surface of a substrate without heating.

107. (Previously Presented) A method according to any one of claims 101, 102, 103 or 104, wherein said hard-carbon coating comprises a diamond-like carbon.

H1 Cont

108. (Previously Presented) A method according to any one of claims 101, 102, 103 or 104, wherein film quality of said hard-carbon coating is measured in accordance with Raman spectroscopy.

109. (Previously Presented) A method according to any one of claims 101, 102, 103 or 104, wherein the thickness of said hard-carbon coating is 50Å or more.

110. (Currently Amended) A method according to ~~any~~ either one of claims [[101,]] 102, [[103]] or 104, wherein said hard-carbon coating contains hydrogen.

111. (Canceled)

112. (Previously Presented) A method of operating a compact disk comprising the steps of:

introducing an optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a laser light having a wavelength of 700 to 800 nm onto said optical disk through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is $30/mm^2$ or less, wherein said hard-carbon coating is an outermost layer of the disk, and wherein said hard-carbon coating contains hydrogen;

wherein said hard-carbon coating contains silicon and phosphorus.

113. (Previously Presented) A method of operating a compact disk comprising the steps of:

introducing an optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a laser light having a wavelength of 700 to 800 nm onto said optical disk through said hard-carbon coating;

H1 cont.

wherein the number of pin-holes in said hard-carbon coating is $30/mm^2$ or less,

wherein said hard-carbon coating contains silicon and phosphorus at a concentration at 20 atomic% or less.

114. (Previously Presented) A method of operating a compact disk comprising the steps of:

introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a laser light having a wavelength of 700 to 800 nm onto said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is $30/mm^2$ or less, wherein said hard-carbon coating is an outermost layer of the disk, and wherein said hard-carbon coating contains hydrogen;

wherein said hard-carbon coating contains silicon and phosphorus.

115. (Previously Presented) A method of operating a compact disk comprising the steps of:

introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a laser light having a wavelength of 700 to 800 nm onto said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is $30/mm^2$ or less;

wherein said hard-carbon coating contains silicon and phosphorus at a concentration at 20 atomic% or less.

116. (Previously Presented) A method according to either one of claims 112 or 113, wherein said protective film is formed on the surface of said optical disk without heating.

H1 cont

117. (Previously Presented) A method according to either one of claims 114 or 115, wherein said protective film is formed on the surface of said substrate without heating.

118. (Previously Presented) A method according to any one of claims 112, 113, 114 or 115, wherein said hard-carbon coating comprises a diamond-like carbon.

119. (Previously Presented) A method according to any one of claims 112, 113, 114 or 115, wherein film quality of said hard-carbon coating is measured in accordance with Raman spectroscopy.

120. (Previously Presented) A method according to any one of claims 112, 113, 114 or 115, wherein the thickness of said hard-carbon coating is 50Å or more.

121. (Currently Amended) A method according to ~~any~~ either one of claims [[112,]] 113, [[114]] or 115, wherein said hard-carbon coating contains hydrogen.

122. (Canceled)

123. (Previously Presented) A method of operating a compact disk comprising the steps of:

introducing an optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a visible light onto said optical disk through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is 30/mm^2 or less, wherein said hard-carbon coating is an outermost layer of the disk, and wherein said hard-carbon coating contains hydrogen;

wherein said hard-carbon coating contains silicon and phosphorus.

H1 cont.

124. (Previously Presented) A method of operating a compact disk comprising the steps of:

introducing an optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a visible light onto said optical disk through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is 30/mm^2 or less,

wherein said hard-carbon coating contains silicon and phosphorus at a concentration at 20 atomic% or less.

125. (Previously Presented) A method of operating a compact disk comprising the steps of:

introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a visible light onto said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is $30/mm^2$ or less, wherein said hard-carbon coating is an outermost layer of the disk, and wherein said hard-carbon coating contains hydrogen;

wherein said hard-carbon coating contains silicon and phosphorus.

126. (Previously Presented) A method of operating a compact disk comprising the steps of:

introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a visible light onto said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is $30/mm^2$ or less;

wherein said hard-carbon coating contains silicon and phosphorus at a concentration at 20 atomic% or less.

127. (Previously Presented) A method according to either one of claims 123 or 124, wherein said protective film is formed on the surface of said optical disk without heating.

128. (Previously Presented) A method according to either one of claims 125 or 126, wherein said protective film is formed on the surface of said substrate without heating.

129. (Previously Presented) A method according to any one of claims 123, 124, 125 or 126, wherein said hard-carbon coating comprises a diamond-like carbon.

130. (Previously Presented) A method according to any one of claims 123, 124, 125 or 126, wherein film quality of said hard-carbon coating is measured in accordance with Raman spectroscopy.

131. (Previously Presented) A method according to any one of claims 123, 124, 125 or 126, wherein the thickness of said hard-carbon coating is 50Å or more.

132. (Currently Amended) A method according to ~~any~~ either one of claims [[123,]] 124, [[125]] or 126, wherein said hard-carbon coating contains hydrogen.

133. (Canceled)

134. (Previously Presented) A method of operating an optical disk comprising the steps of:

introducing said optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a semiconductor laser light onto said optical disk through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is $30/mm^2$ or less, and wherein said hard-carbon coating contains hydrogen;

wherein said hard-carbon coating contains silicon and phosphorus.

135. (Previously Presented) A method of operating an optical disk comprising the steps of:

introducing said optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a semiconductor laser light onto said optical disk through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is 30/mm^2 or less,

wherein said hard-carbon coating contains silicon and phosphorus at a concentration at 20 atomic% or less.

136. (Previously Presented) A method of operating an optical disk comprising the steps of:

introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a semiconductor laser light onto said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is 30/mm^2 or less, wherein said hard-carbon coating is an outermost layer of the disk, and wherein said hard-carbon coating contains hydrogen;

wherein said hard-carbon coating contains silicon and phosphorus.

A1 cont.

137. (Previously Presented) A method of operating an optical disk comprising the steps of:

introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a semiconductor laser light onto said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is 30/mm^2 or less;

wherein said hard-carbon coating contains silicon and phosphorus at a concentration at 20 atomic% or less.

138. (Previously Presented) A method according to either one of claims 134 or 135, wherein said protective film is formed on the surface of said optical disk without heating.

139. (Previously Presented) A method according to either one of claims 136 or 137, wherein said protective film is formed on the surface of said substrate without heating.

140. (Previously Presented) A method according to any one of claims 134, 135, 136 or 137, wherein said hard-carbon coating comprises a diamond-like carbon.

141. (Previously Presented) A method according to any one of claims 134, 135, 136 or 137, wherein film quality of said hard-carbon coating is measured in accordance with Raman spectroscopy.

142. (Previously Presented) A method according to any one of claims 134, 135, 136 or 137, wherein the thickness of said hard carbon coating is 50Å or more.

143. (Currently Amended) A method according to ~~any~~ either one of claims [[134,]] 135, [[136]] or 137, wherein said hard-carbon coating contains hydrogen.

144. (Canceled)

145. (Previously Presented) A method of operating an optical disk comprising the steps of:

introducing said optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a laser light having a wavelength of 700 to 800 nm onto said optical disk through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is 30/mm^2 or less, wherein said hard-carbon coating is an outermost layer of the disk, and wherein said hard-carbon coating contains hydrogen;

wherein said hard-carbon coating contains silicon and phosphorus.

146. (Previously Presented) A method of operating an optical disk comprising the steps of:

introducing said optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a laser light having a wavelength of 700 to 800 nm onto said optical disk through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is 30/mm^2 or less,

wherein said hard-carbon coating contains silicon and phosphorus at a concentration at 20 atomic% or less.

H1 cont.

147. (Previously Presented) A method of operating an optical disk comprising the steps of:

introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a laser light having a wavelength of 700 to 800 nm onto said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is 30/mm^2 or less, wherein said hard-carbon coating is an outermost layer of the disk, and wherein said hard-carbon coating contains hydrogen;

wherein said hard-carbon coating contains silicon and phosphorus.

148. (Previously presented) A method of operating an optical disk comprising the steps of:

introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a laser light having a wavelength of 700 to 800 nm into said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is $30/mm^2$ or less;

wherein said hard-carbon coating contains silicon and phosphorus at a concentration at 20 atomic% or less.

149. (Previously Presented) A method according to either one of claims 145 or 146, wherein said protective film is formed on the surface of said optical disk without heating.

150. (Previously Presented) A method according to either one of claims 147 or 148, wherein said protective film is formed on the surface of said substrate without heating.

H / cont.

151. (Previously Presented) A method according to any one of claims 145, 146, 147 or 148, wherein said hard-carbon coating comprises a diamond-like carbon.

152. (Previously Presented) A method according to any one of claims 145, 146, 147 or 148, wherein film quality of said hard-carbon coating is measured in accordance with Raman spectroscopy.

153. (Previously Presented) A method according to any one of claims 145, 146, 147 or 148, wherein the thickness of said hard-carbon coating is 50Å or more.

154. (Currently Amended) A method according to ~~any~~ either one of claims 145, 146, [[147]] or 148, wherein said hard-carbon coating contains hydrogen.

155. (Canceled)

156. (Previously Presented) A method of operating an optical disk comprising the steps of:

introducing said optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a visible light onto said optical disk through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is $30/mm^2$ or less, wherein said hard-carbon coating is an outermost layer of the disk, and wherein said hard-carbon coating contains hydrogen;

wherein said hard-carbon coating contains silicon and phosphorus.

157. (Previously Presented) A method of operating an optical disk comprising the steps of:

H1 cont.

introducing said optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a visible light onto said optical disk through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is $30/mm^2$ or less,

wherein said hard-carbon coating contains silicon and phosphorus at a concentration at 20 atomic% or less.

158. (Previously Presented) A method of operating an optical disk comprising the steps of:

introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a visible light onto said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is 30/mm^2 or less, wherein said hard-carbon coating is an outermost layer of the disk, and wherein said hard-carbon coating contains hydrogen;

wherein said hard-carbon coating contains silicon and phosphorus.

159. (Previously Presented) A method of operating an optical disk comprising the steps of:

introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a visible light onto said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is 30/mm^2 or less;

wherein said hard-carbon coating contains silicon and phosphorus at a concentration at 20 atomic% or less.

H1 cont.

160. (Previously Presented) A method according to either one of claims 156 or 157, wherein said protective film is formed on the surface of said optical disk without heating.

161. (Previously Presented) A method according to either one of claims 158 or 159, wherein said protective film is formed on the surface of said substrate without heating.

162. (Previously Presented) A method according to any one of claims 156, 157, 158 or 159, wherein said hard-carbon coating comprises a diamond-like carbon.

163. (Previously Presented) A method according to any one of claims 156, 157, 158 or 159, wherein film quality of said hard-carbon coating is measured in accordance with Raman spectroscopy.

164. (Previously Presented) A method according to any one of claims 156, 157, 158 or 159, wherein the thickness of said hard-carbon coating is 50Å or more.

165. (Currently Amended) A method according to ~~any~~ either one of claims [[156,]] 157, [[158]] or 159, wherein said hard-carbon coating contains hydrogen.

166. (Canceled)

H1 cont.

167. (Currently Amended) The method according to any one of claims 1, 8, 15, 22, 29, 36, 43, 50, 57, 58, 59, or 60, ~~68, 69, 70, 71, 79, 80, 81, 82, 90, 91, 92, 93, 101, 102, 103, 104, 112, 113, 114, 115, 123, 124, 125, 126, 134, 135, 136, 137, 145, 146, 147, 148, 156, 157, 158, or 159 wherein said hard-carbon coating is ultrasonically vibrated during formation~~ wherein said optical disk has been treated by ultrasonic vibration during forming said hard-carbon coating.

168. (New) The method according to any one of claims 68, 69, 70, 71, 79, 80, 81, 82, 90, 91, 92 or 93, wherein said substrate has been treated by ultrasonic vibration during forming said hard-carbon coating.

169. (New) The method according to any one of claims 101, 102, 103, 104, 112, 113, 114, 115, 123, 124, 125, or 126, wherein said optical disk has been treated by ultrasonic vibration during forming said hard-carbon coating.

H2

170. (New) The method according to any one of claims 134, 135, 136, 137, 145, 146, 147, 148, 156, 157, 158, or 159, wherein said optical disk has been treated by ultrasonic vibration during forming said hard-carbon coating.